

Aero Design Ltd.**Work Order Control Sheet**Work Order#: **2017-86** Date Opened: **18 May 2017** Title: **Assembly**Aircraft OEM: **Eurocopter** Aircraft Model: **AS350** Product Type: **Bicycle Rack** Product Model: **RH** Quantity: **1****Work Order Contents**

Work Order/Build Sheets (Procedures Provided)
Additional Work Sheets (Standard Practice)
Drawings (See List Below)
Parts Distribution Sheet
Sub Component Tags
Completed Certification
Time Sheet (R&D)
Notes

Initial or N/A

KB
N/A
KB
KB
N/A
JC
N/A
N/A

Build Sheet Contents

Tasks Initialled
Dual Inspections Initialled

Initial or N/A

JC
JC

Drawing List

Drawing #	Rev #	Description	Initial or N/A
100210	0	Bike Rack Assembly	KB
100215	0	Bike Rack Base	KB

Traveller

Assemble base
Assemble aft frames
Assemble forward frames
Install placard
Prepare cam straps

Initial or N/A

JC/KB
KB
KB
KB
KB

Component Completion

Quantity Complete on This Work Order
Quantity Incomplete on This Work Order
Further Processing Required Before Release
Release to Stock as Components

As Instructed

1
N/A
N/A
N/A

Certification

Form One Completed
Serviceable (Green) Tag Completed
In Process (Yellow) Tag Completed
Unserviceable (Red) Tag Completed
Parts Placed in Stores for Distribution

Initial or N/A

JC
N/A
N/A
N/A
N/A

Additional Documentation

Documentation of a minor change
Non-Conformance Report Required
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

Billing

Local (Aero Design)
Research and Development
Third Party

Initial or N/A

JC
N/A
N/A

Work performed by:

Print: K. BeransSign: Kidj Berna

SCA: _____

Date: 25 May 17

ICC / Dual Inspection preformed by:

Print: J. Clarke

Sign: _____

SCA: AD02Date: 29-May-17

Work Order closed by:

Print: J. Clarke

Sign: _____

SCA: AD02Date: 29-May-17

Approved Manufacturing Facility 73-04

Form 20.D.03

Rev. Original 23 Sep 2014

BICYCLE RACK ASSEMBLY – 100210

R1H

Work Order: 2017-86

Complete
(initial or SCA #)

Date Open: 25 May 2017

General

These instructions apply to assembly of AS350/AS355 bicycle racks. Refer to the following drawings, at the current revision, for dimensions and details:

100210, Revision 0 – Bicycle Rack Assembly

1. Assemble rack base:

- gc a. Install 96710-01 Fitting with two NAS1149F0663P Washers on 100230-02 Attachment Bracket, 2 places per bracket. Apply nickel based anti-seize compound to threads.
- gc b. Torque Fittings to 160-190 in-lbs (18.1-21.5 N-m).
- KB c. Apply Mastinox 6856K, Tectyl 894, or equivalent corrosion preventative compound to flanges of attachment brackets and slots on inboard side of rack.
- N/A d. Install 100230-02 attachment brackets on inboard side of rack base using AN4-14A Bolt, two NAS1149F0463P Washers, and MS21044N4 nut, two places per bracket, two brackets per rack base.
- N/A e. Torque AN4 bolts to 30-40 in-lbs (3.4-4.5 N-m).

2. Assemble aft fixed frames, 3 places per rack:

- a. Install two 100221-01 Fixed Frames using two AN4-11A Bolts and NAS1149F0463P Washers per frame.
- b. Install 100225-01 Strap across top of frames using two AN3-13A Bolts, NAS1149F0363P Washers (2 places) and MS21044N3 Nuts.
- c. Torque AN3 bolts to 12-15 in-lbs (1.4-1.7 N-m).
- d. Torque AN4 bolts to 30-40 in-lbs (3.4-4.5 N-m).

3. Assemble forward moveable frames, 3 places per rack:

- a. Assemble 100223-01 Upper Roller, 100223-02 Lower Roller, and 100222-01 (LH) or 100222-02 (RH) Cam with 100224-01 Bushings.
- b. Locate two 100220-01 Moveable Frames on either side of rail. At the forward end (with two bushings), insert AN4-60A Bolt with NAS1149F0463P Washer through bottom bushing in frame, through Lower Roller assembled above, and through frame on opposite side. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt.
- c. Raise assembly to rack. At forward end, insert AN4-60A Bolt with NAS1149F0463P Washer through upper bushing in frame, through Upper Roller assembled above, and through frame on opposite side. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt.
- d. At aft end, insert AN4-60A Bolt with NAS1149F0463P Washer through aft bushing in frame, through Cam Assembly assembled above (lever down), and through frame on opposite side. Install NAS1149F0463P Washer and MS21044N4 Nut on bolt.
- e. Install 100225-01 Strap across top of frames using two AN3-13A Bolts, NAS1149F0363P Washers (2 places) and MS21044N3 Nuts.
- f. Torque AN3 bolts to 12-15 in-lbs (1.4-1.7 N-m).
- g. Torque AN4 bolts to 30-40 in-lbs (3.4-4.5 N-m).

BICYCLE RACK ASSEMBLY – 100210

Complete
(initial or SCA #)

4. Install placard:

- a. Install 100227-XX Placard using CR3213-4-04 CherryMax rivets, 4 places per placard. Locate placard as follows:
 - i. Center placard in pocket at front end of outboard rail.
 - ii. If pocket is not machined in rail, locate placard 5/8" from forward edge of outboard rail, with rivets centered on the high ridges.

5. Prepare cam straps, 3 per rack:

- a. Cut webbing of cam strap to 52" from end of buckle to end of strap. Cut at a 45° angle.
- b. Using a lighter, carefully melt the cut end.

6. Final Inspection:

To be completed by a different person than the previous steps.

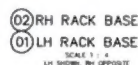
- a. Inspect bicycle rack 100210-01-XX for conformity to drawings.
- b. Check bolts have been torqued.
- c. Inspect cam straps.

KB

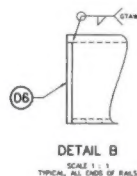
KB

AD
73-04
02

4	10	20	30	40	50	60	70	80	90	100
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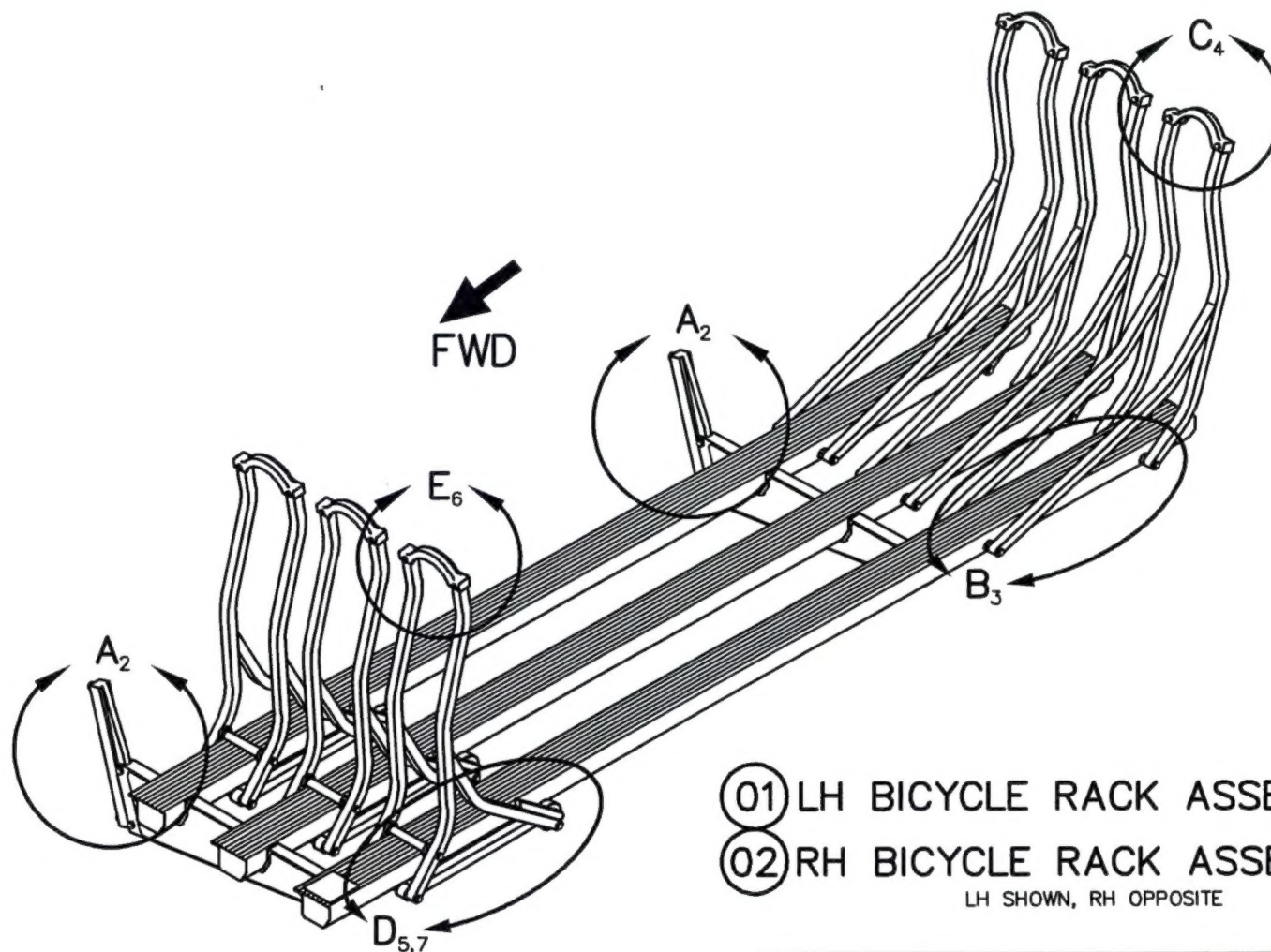


1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
2. WELDING OF BULK ALUMINUM IS TO COMPLETED BY STAB METHOD TO AVOID BOND.
WELDING ROD SHALL CONFORM TO AWS/AAS D14643.
3. FINISH ALUMINUM PARTS - AFTER WELDING:
 - THOROUGHLY DEGREASE, ALCOHOL, EPOXY PRIMER AND POLYURETHANE PAINT.
 - ALTERNATE POWDER COATING
 - THOROUGHLY DEGREASE USING TOP CHEMICALS TOP COB 8888 DEGREASER / HIGH PHOSPHATE @ 3R BY VOLUME.
 - POWDER COAT USING SHERWIN WILLIAMS POLYURETHANE SUPERSTYR DUTY COAT OF EQUIVALENT POWDER COAT MATERIALS
 - PROCESS THAT DOES NOT EXCEED TREATMENT TIME, LIMITS NOTED BELOW
 - CURE POWDER COATING AT 392°F (197°F) FOR 30 MINUTES (±3 MIN).
4. INSTANT PLACED AFTER SURFACE FINISH IS DRY.


[illegible]

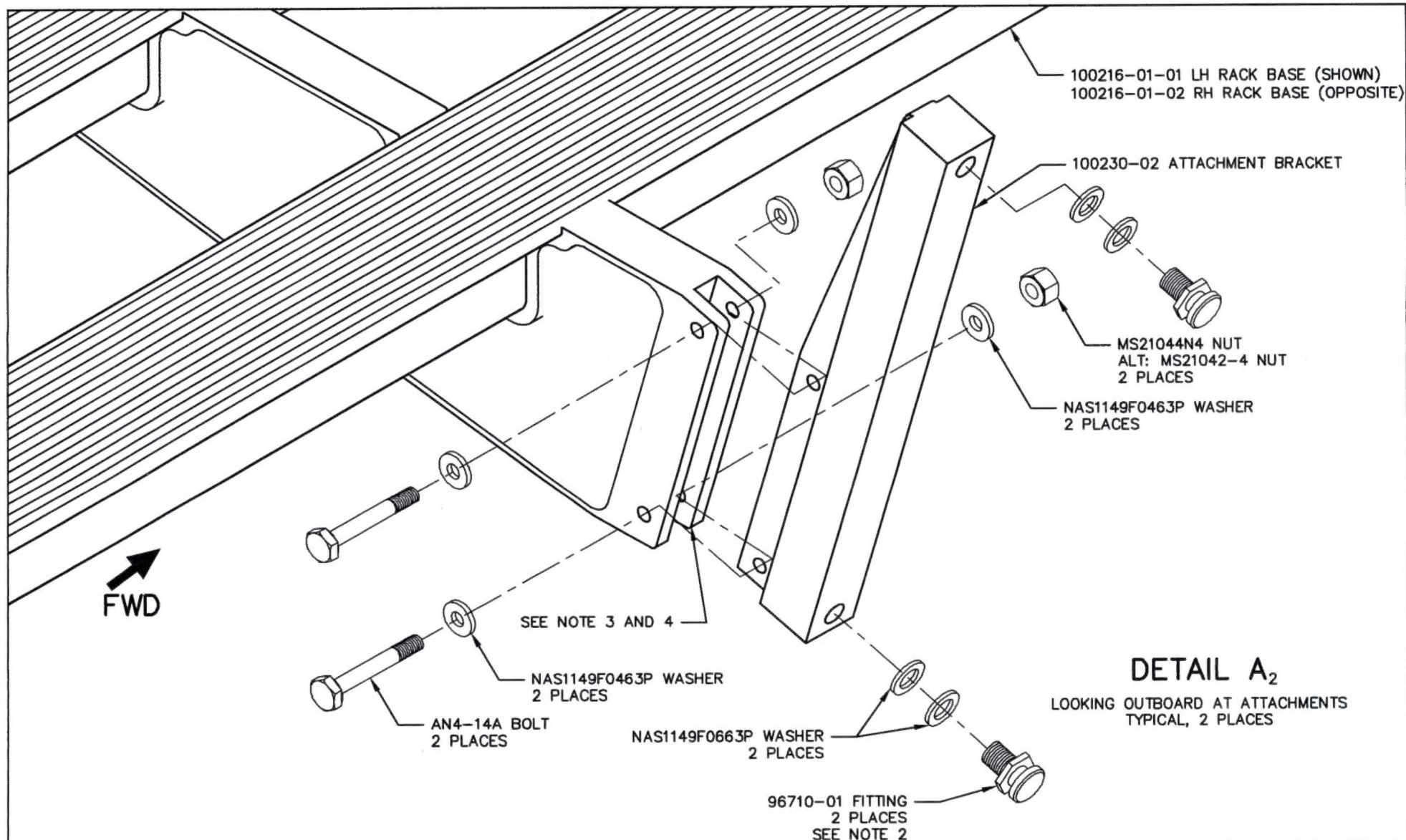
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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		




- ① LH BICYCLE RACK ASSEMBLY
 ② RH BICYCLE RACK ASSEMBLY
 LH SHOWN, RH OPPOSITE

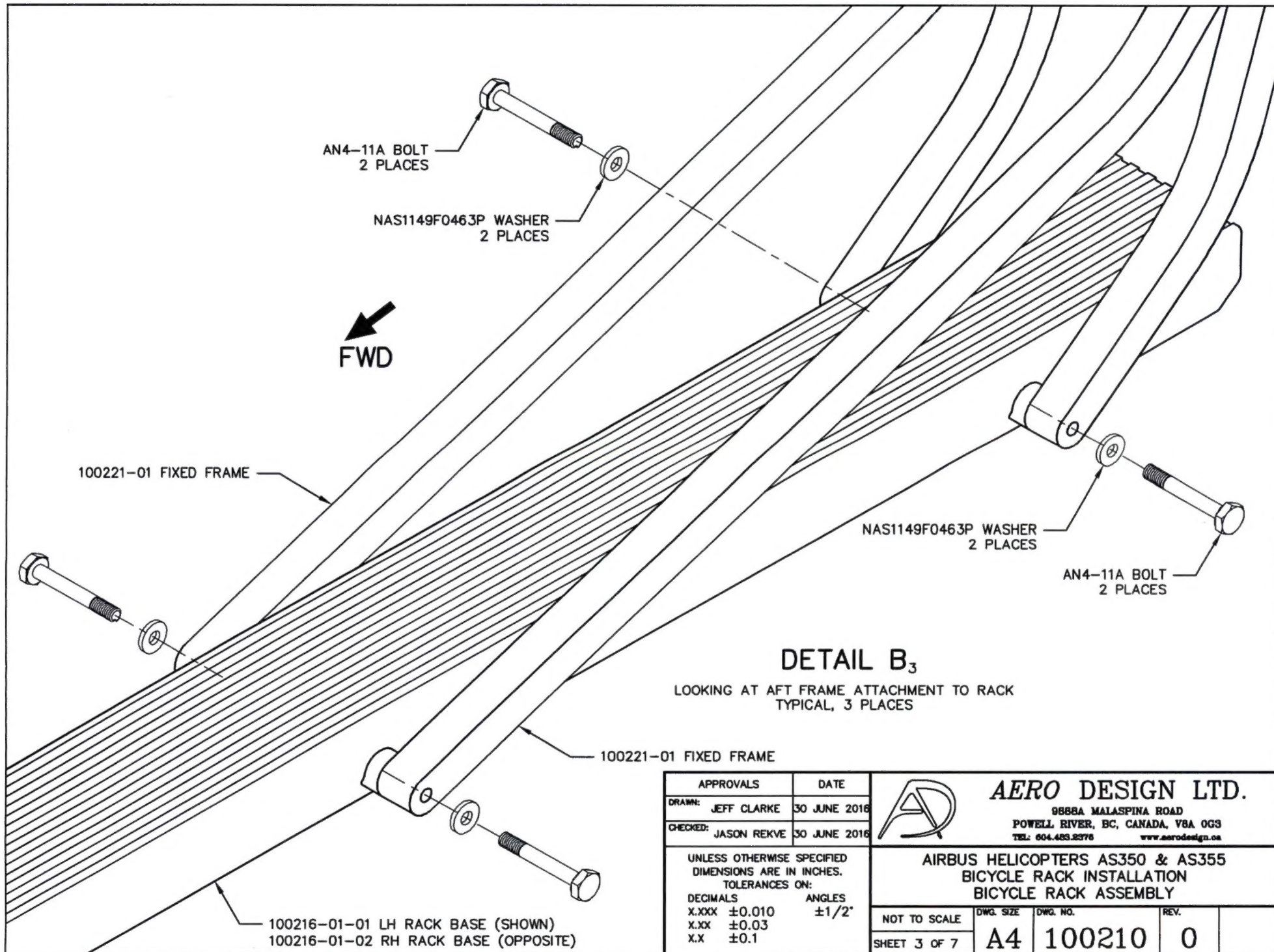
APPROVALS		DATE			AERO DESIGN LTD. 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.483.8376 www.aerodesign.ca		
DRAWN: JEFF CLARKE		30 JUNE 2016					
CHECKED: JASON REKVE		30 JUNE 2016					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1				AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY			
NOT TO SCALE				DWG. SIZE	DWG. NO.	REV.	
SHEET 1 OF 7				A4	100210	0	




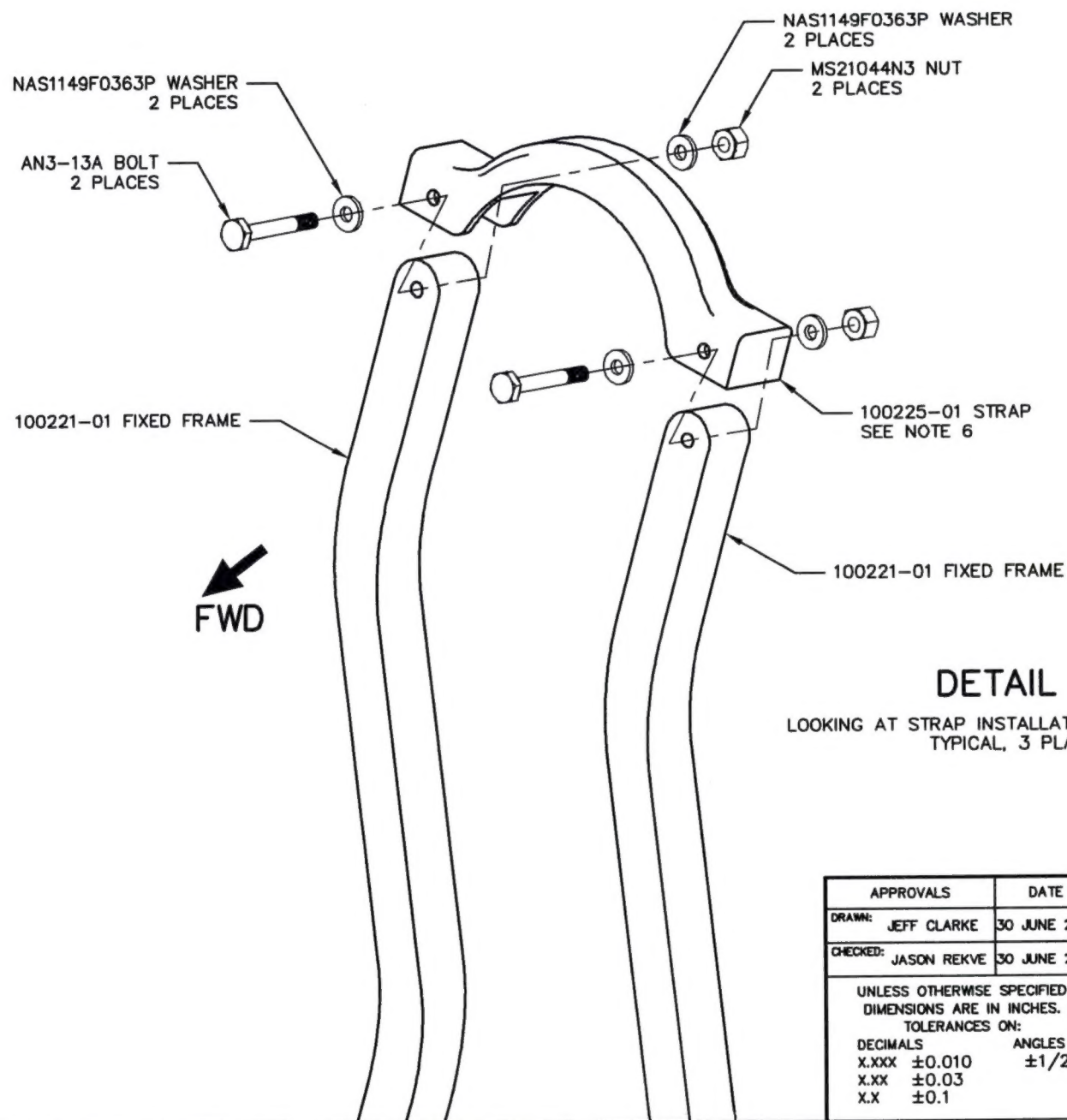
DETAIL A₂

LOOKING OUTBOARD AT ATTACHMENTS
TYPICAL, 2 PLACES

APPROVALS		DATE			AERO DESIGN LTD. 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.489.2376 www.aerodesign.ca	
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NOT TO SCALE		DWG. SIZE		DWG. NO.		REV.
SHEET 2 OF 7		A4		100210		0




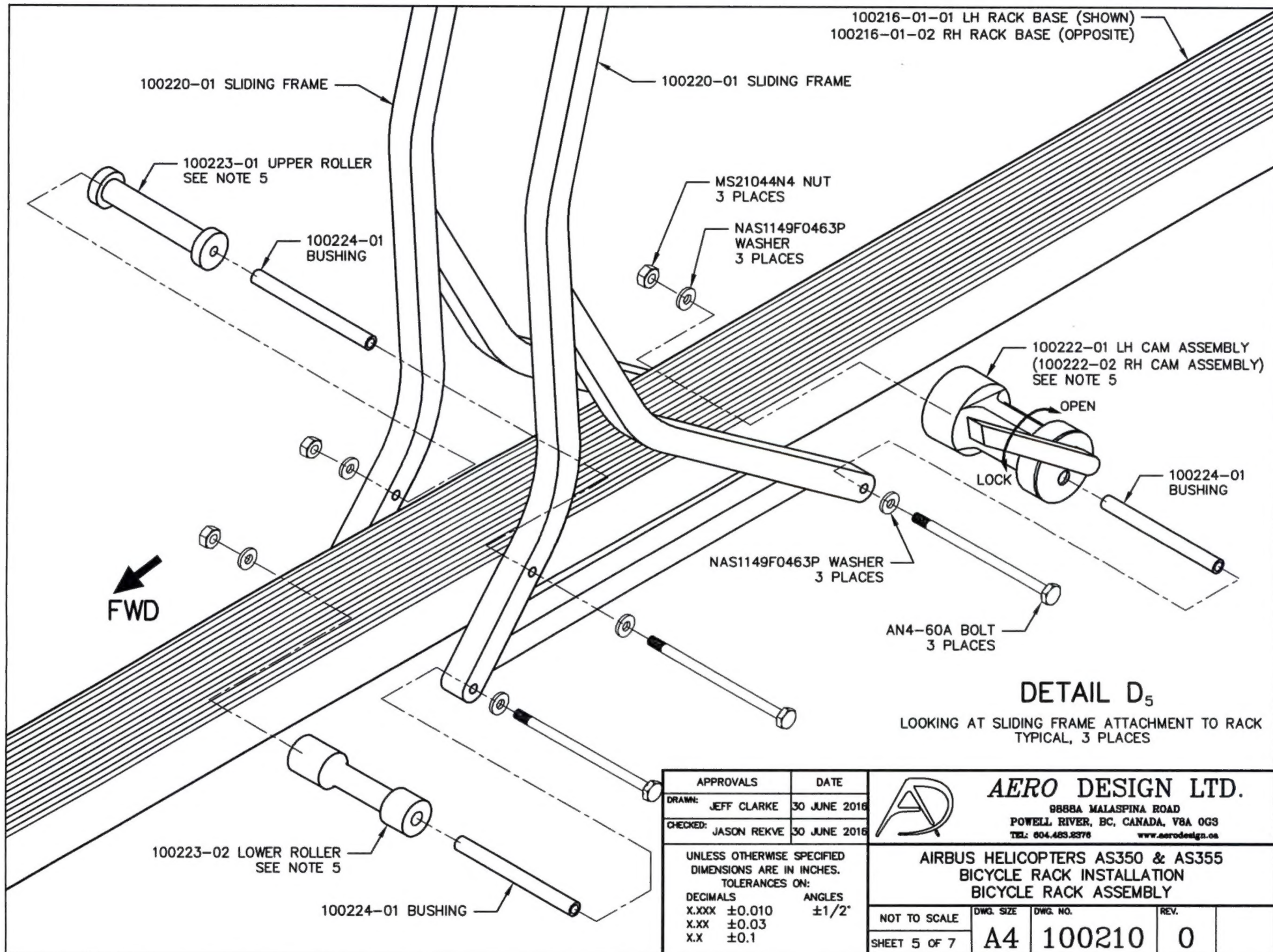
APPROVALS		DATE			AERO DESIGN LTD. 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.483.2376 www.aerodesign.ca		
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NOT TO SCALE				DWG. SIZE	DWG. NO.	REV.	
SHEET 3 OF 7				A4	100210	0	

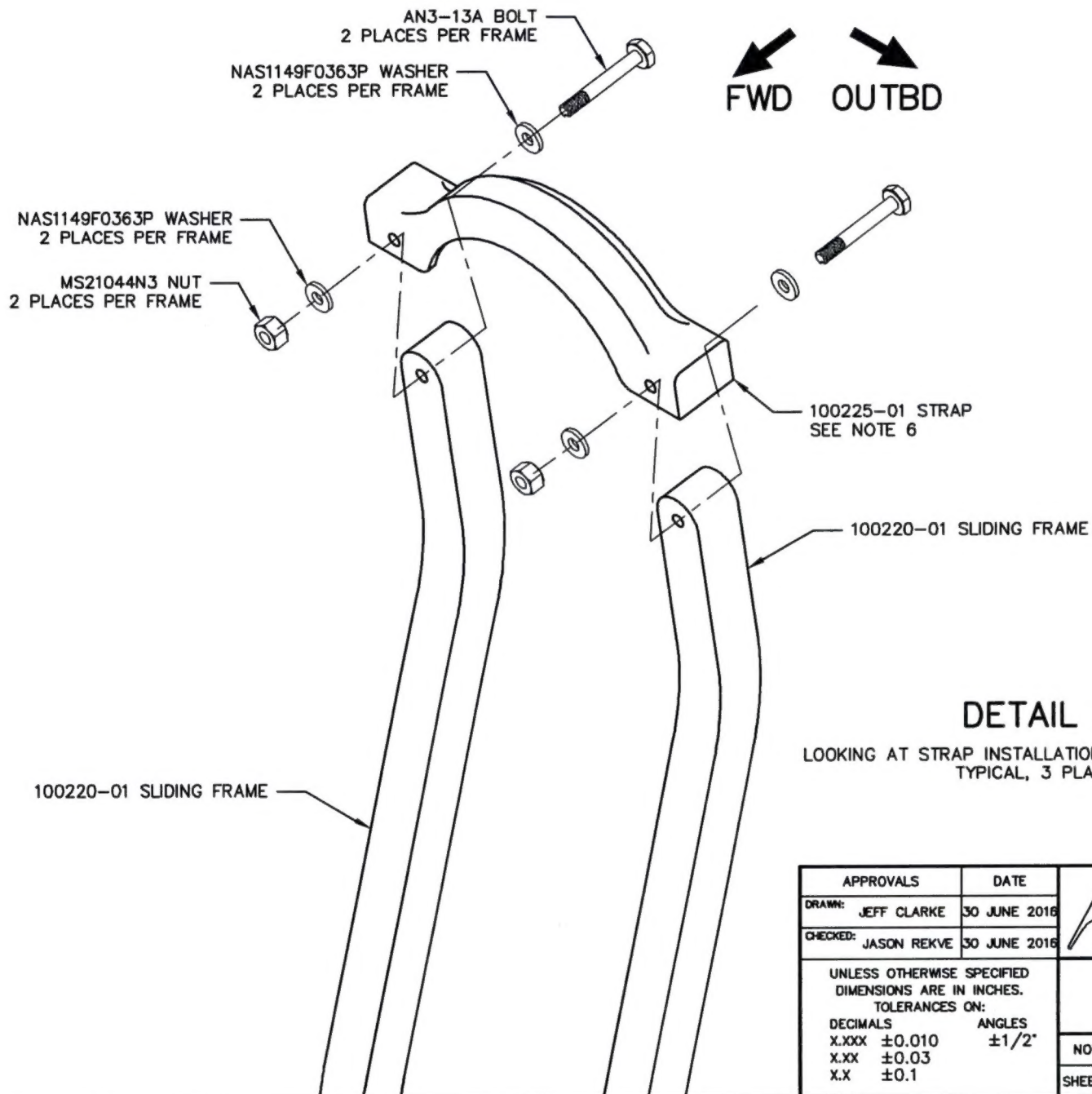



DETAIL C₄

LOOKING AT STRAP INSTALLATION ON AFT FRAME
TYPICAL, 3 PLACES

APPROVALS		DATE			AERO DESIGN LTD.		
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CHECKED:	JASON REKVE	30 JUNE 2016			POWELL RIVER, BC, CANADA, V8A 0G3		
					TEL: 604.483.2376		
					www.aerodesign.ca		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:				AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY			
DECIMALS				ANGLES			
X.XXX ±0.010				±1/2°			
X.XX ±0.03							
X.X ±0.1							
NOT TO SCALE				DWG. SIZE		DWG. NO.	
SHEET 4 OF 7				A4		100210	
						REV.	
						0	






APPROVALS		DATE			AERO DESIGN LTD. 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.483.8378 www.aerodesign.ca	
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1				AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY		
NOT TO SCALE				DWG. SIZE	DWG. NO.	REV.
SHEET 6 OF 7				A4	100210	0

NOTES

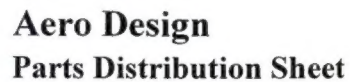
1. INSTALL ALL HARDWARE USING STANDARD SHOP PRACTICES AS OUTLINED IN AC43.13-1B, CHAPTER 7 "AIRCRAFT HARDWARE, CONTROL CABLES, AND TURNBUCKLES" OR STANDARD AIRCRAFT WORKERS MANUAL, SECTION 7 "SHOP PRACTICES". NAS1149F0432P WASHERS MAY BE SUBSTITUTED FOR NAS1149F0463P WASHERS TO MAINTAIN 2-4 THREADS BEYOND LOCKING AS REQUIRED ON ASSEMBLY.
2. APPLY NICKEL BASED ANTI-SEIZE COMPOUND TO THREADS OF FITTING ON INSTALLATION.
3. ANY PAINT OR POWDER COAT THAT PREVENTS INSTALLATION OF ATTACHMENT BRACKET MAY BE REMOVED WITH SCOTCH BRITE. APPLY ALODINE TO UN-COATED AREAS PRIOR TO ASSEMBLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
4. APPLY MASTINOX 6856K, TECTYL 894, OR EQUIVALENT CORROSION PREVENTATIVE COMPOUND TO FLANGE OF ATTACHMENT BRACKET AND BEAM SLOT PRIOR TO ASSEMBLY.
5. ENSURE ROLLERS ARE FREE TO ROTATE WITH CAM OPEN AND FRAME SLIDES ALONG RAIL. ENSURE CAM ROTATES TO LOCKED POSITION WITH LEVER PARALLEL TO FRAME. ENSURE FRAME CANNOT SLIDE ON RAIL WHEN CAM IS IN LOCKED POSITION.
6. ANY PAINT OR POWDER COAT THAT PREVENTS INSTALLATION OF STRAP MAY BE REMOVED WITH SCOTCH BRITE. APPLY ALODINE TO UN-COATED AREAS PRIOR TO ASSEMBLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. TORQUE AN3 BOLTS TO 12-15 IN-LBS (1.4-1.7 N-m).
TORQUE AN4 BOLTS TO 30-40 IN-LBS (3.4-4.5 N-m).
TORQUE 96710-01 FITTINGS TO 160-190 IN-LBS (18.1-21.5 N-m).

(12)	(12)	MS21042-3	NUT (ALTERNATE)
12	12	MS21044N3	NUT
24	24	NAS1149F0363P	WASHER
12	12	AN3-13A	BOLT
(13)	(13)	MS21042-4	NUT (ALTERNATE)
13	13	MS21044N4	NUT
A/R	A/R	NAS1149F0432P	WASHER
38	38	NAS1149F0463P	WASHER
9	9	AN4-60A	BOLT
4	4	AN4-14A	BOLT
12	12	AN4-11A	BOLT
8	8	NAS1149F0663P	WASHER
4	4	96710-01	FITTING (ALT: ANCRA 40088-14)
9	9	100224-01	BUSHING
3	3	100223-02	LOWER ROLLER
3	3	100223-01	UPPER ROLLER
3		100222-02	RH CAM ASSEMBLY
	3	100222-01	LH CAM ASSEMBLY
6	6	100220-01	SLIDING FRAME
6	6	100225-01	STRAP
6	6	100221-01	FIXED FRAME
2	2	100230-02	ATTACHMENT BRACKET
1		100215-01-02	RH RACK BASE
	1	100215-01-01	LH RACK BASE
		100210-01-02	02 RH BICYCLE RACK ASSEMBLY
		100210-01-01	01 LH BICYCLE RACK ASSEMBLY
02	01	PART NO.	ITEM DESCRIPTION
QTY	QTY	LIST OF MATERIALS	

APPROVALS		DATE			AERO DESIGN LTD. 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.483.2376 www.aerodesign.ca		
DRAWN: JEFF CLARKE		30 JUNE 2016					
CHECKED: JASON REKVE		30 JUNE 2016					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1				AIRBUS HELICOPTERS AS350 & AS355 BICYCLE RACK INSTALLATION BICYCLE RACK ASSEMBLY			
NOT TO SCALE				DWG. SIZE	DWG. NO.	REV.	
SHEET 7 OF 7				A4	100210	0	

1. Approving Civil Aviation Authority/Country Transport Canada		2. AUTHORIZED RELEASE CERTIFICATE FORM ONE			3. Form Tracking No. 2017-0192
4. Organization Name and Address AERO Design Ltd. – 9888A Malaspina Road, Powell River, BC, V8A 0G3					5. Work Order/Contract/Invoice WO 2017-86
6. Item 1.	7. Description Bicycle Rack Assembly (RH)	8. Part Number 100210-01-02	9. Qty. 1	10. Serial/Batch No. 100202-08	11. Status/Work New
12. Remarks					
13a. Certifies that the items identified above were manufactured in conformity to: <input checked="" type="checkbox"/> Approved design data and are in condition for safe operation. <input type="checkbox"/> Non approved design data specified in block 12.			14a. <input type="checkbox"/> CAR 571.10 Maintenance Release <input type="checkbox"/> Other regulation specified in block 12 Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the Canadian Aviation Regulations .		
13b. Signature  73-04 02		13c. Approved Organization Number AMF 73-04		14b. Signature	
13d. Name Jeff Clarke - AD02		13e. Date (dd/mmm/yyyy) 29 May 2017		14c. Approved Organization Number	
				14d. Name	
				14e. Date (dd/mmm/yyyy)	
<p align="center">Installer Responsibilities</p> <p>This certificate does not constitute authority to install.</p> <p>Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.</p> <p>Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.</p>					

HELI TECNIA SPAIN



WO# 2017-86

Approved Manufacturing Facility 73-04